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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,961	12/31/2001	Jai-young Kim	030681-349	5416
21839	7590	12/30/2005	EXAMINER	
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			FALASCO, LOUIS V	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/029,961

**Applicant(s)**

KIM, JAI-YOUNG

**Examiner**

Louis Falasco

**Art Unit**

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09/30/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 11/14/05.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

PAPERS RECEIVED

The Request for Reconsideration filed 09/30/05 is acknowledged.

CLAIMS

The claims are: 1, and 3 to 11. All claims remain are under consideration.

DETAILED ACTION

Statutory basis

*The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.*

Rejections

1. Claims 1, 3 to 5, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirota et al** (JA 11185237) and *Ullmann's Encyclopedia of Industrial Chemistry* "Magnetic Quantities and Their Measurement" taken with **Honda et al** (Extremely High Linear Density Recording by Perpendicular Magnetization - IEEE Trans. On Magnetics vol. 32 No. 5 Sept. 1996 pgs 3804-3806) for reasons of record.

2. Claims 4 and 8 to 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirota et al** and *Ullmann's Encyclopedia* with **Honda et al** IEEE Trans. On Magnetics as applied to claims 1, 3, 5 and 11 above, and further in view of **Suzuki et al** (US 6641934) or **Hikosaka et al** (US 5942342) for reasons of record.

**Response to Argument**

3. Applicant's arguments filed 09/30/05 have been fully considered but they are not persuasive.

While applicants appreciate that the art, **Hirota et al**, teaches the thickness surrounded by the claimed range - as pointed out in the previous action (paragraph bridging pages 3 and 4 and evident from page 2 of Request for Reconsideration filed 09/30/05 and evidently appreciated), it is argued the art teaches away from the instant invention because it shows an *increase* in noise within the claimed thicknesses. In contrast the instant invention illustrates a decreasing in noise proportional to thickness with specific selection of materials - an underlayer of Ti, an intermediate layer of NiFe, a magnetic alloy layer of CoCr and only within a specific thickness range - this also contrasts to **Hirota et al** (particularly seen at Fig. 13 of **Hirota et al**) as argued at page 2, last paragraph of the *Request for Reconsideration* of 09/30/05 and summarized in instant Figs 3 through 7). Further the *Request for Reconsideration* points out that **Honda** fails to teach the effect of the media thickness on the *noise level* (page 2 of *Request for*

*Reconsideration* of 09/30/05) and it is argued unobviousness has been illustrated in the relationship shown at instant Figs 4 and 6 (noted also in the *Request for Reconsideration* filed 10/06/04 at page 7, 2<sup>nd</sup> complete paragraph). Fig. 6 shows the  $M_r/M_o$  (the perpendicular remnant magnetization measure corresponding to media noise level) reduced at the variation in thickness  $H_c/H_o$ . In response: subject matter commensurate in scope to what has been demonstrated as unobvious has not in the examiner's option been claimed, hence the examiner initiated phone interview attached. However no agreement was reached to add any amendment to the present claims.

There is commensurate in scope with the showing of unobviousness in the examples. The examiner proposed, in the examiner initiated interview essentially adding the limitations illustrated for the unobvious results to claim 7. The examples and showing of unobviousness required an (1) underlayer of Ti, (2) an intermediate layer of NiFe, (3) a magnetic alloy layer of CoCr and (4) thickness in a specified range. Claim 7 has the (3) CoCr and (4) the specific thickness range reasonably shown in the examples however lacks the Ti underlayer and NiFe intermediate layer required for the results shown in the examples also the claims show be limited to thin film media, since this is the recording media shown for the  $H_c/H_o$ .

CONCLUSION

The claims are 1 and 3 to 11.

- Claims 1 and 3 to 11 have been rejected

**THIS ACTION IS MADE FINAL.**

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


INQUIRES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis Falasco, PhD whose telephone number is (571)272-1507. The examiner can normally be reached on M-F 10:30 - 7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol D. Chaney, PhD can be reached at (571)272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
LF  
11/05

  
STEVAN A. RESAN  
PRIMARY EXAMINER